

discordAR

Political Polarization in Portugal and some other Political Facts

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Presentation at Prosper Research Center, Católica-Lisbon SBE

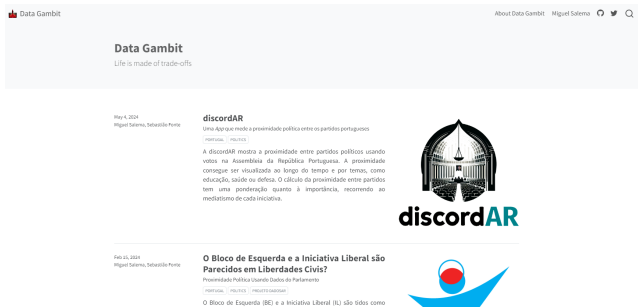
May 6, 2024



Section 1

Do It Yourself

- Google “Data Gambit”;
- Click on the first result;
- Open the first article.

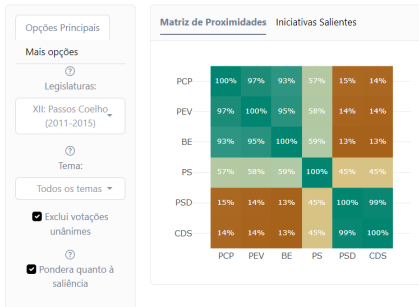


The screenshot shows the Data Gambit website interface. At the top, there is a navigation bar with the site name and user information. Below this is a header section for the article. The article title is "discordAR" and the subtitle is "Uma App que mede a proximidade política entre os partidos portugueses". The author is Miguel Salema, Sebastião Fonte, dated May 4, 2024. The article text describes the app's function: "A discordAR mostra a proximidade entre partidos políticos usando votos na Assembleia da República Portuguesa. A proximidade consegue ser visualizada ao longo do tempo e por temas, como educação, saúde ou defesa. O cálculo da proximidade entre partidos tem uma ponderação quanto à importância, recorrendo ao mediatismo de cada iniciativa." To the right of the text is a logo for discordAR, which features a stylized building facade. Below the article text, there is a section for a related article titled "O Bloco de Esquerda e a Iniciativa Liberal são Parecidos em Liberdades Civis?", dated Feb 11, 2024, by the same author. This section includes a sub-headline "Proximidade Política Usando Dados do Parlamento" and a small logo with a blue and red circle.

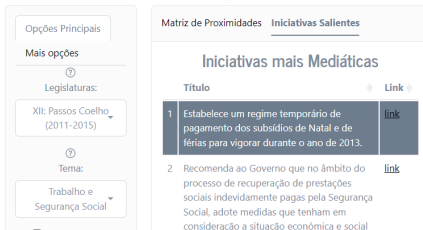
The link: <https://www.data-gambit.com/posts/discordar/discordar.html>

- 1 Legislature;
- 2 Theme:
 - Identified through “comissão parlamentar”;
- 3 Proponent of the initiative;
- 4 Eliminate the unanimous bills;
- 5 Weight by salience:
 - We used AI to connect bills to news articles;
- 6 View the most important bills;
- 7 Open the news saved by *Arquivo.pt*.

Percentagem de Votos na Mesma Direção entre os Partidos



Percentagem de Votos na Mesma Direção entre os Partidos



We use two main sources of data:

Votes in Parliament

- Votes of the MPs in the proposed bills;
- Bill themes:
 - Each bill is assigned by the parliament itself to a *Parliamentary Commission*;
 - We develop a crosswalk to compare themes overtime;
- Other information like bill title, proponent party, date, etc. . .

Online Newspapers: *Arquivo.pt* (Portuguese Wayback Machine)

- More than 20 years of news in PT newspapers;
- News' titles, body texts and a time stamp were *webscrapped*.

- 1 Keep only the 1st voting stage of a bill to avoid overcounting approved bills;
- 2 Remove unanimous:
 - The importance of unanimous bills is generally very low;
- 3 Remove abstentions (Poole and Rosenthal 1985; Bräuninger, Müller, and Stecker 2016; Rosas, Shomer, and Haptonstahl 2015):
 - An abstention is not half-way in between a vote for and against;
 - Abstentions generally have tactical motivations; e.g: to avoid showing alignment, an opposition party has incentives to abstain, rather than agree with a proposal from the government.
- 4 Remove irrelevant bill types, like votes of condolences. Remaining bill types:

Bill Type
Projeto de Lei
Projeto de Resolução
Projeto de Revisão Constitucional
Proposta de Lei
Ratificação
Proposta de Resolução
Inquérito Parlamentar
Projeto de Deliberação
Apreciação Parlamentar

To measure party proximities, we consider a vote in favor of a bill as “1”, and a vote against it as “-1”. Then, we do the average of the euclidean distance and aggregate MPs by party, because:

- Although there is no vote discipline in the law, it is a *de facto* practice of parties, even in their official internal rules (Leston-Bandeira 2009);
- Contrary to the US and the UK, parties are the main political organizational unit in Portugal.

! Interpretation

We measure agreement/disagreement about the direction where society should move to, not about where the Portuguese society is at the moment; i.e., we only see proposed changes.

Detailed Method

Literature

Salient issues are an old theme in Political Science (Kuklinski and Elling 1977).

We employ a novel measure of salience for the literature on roll-call voting: media coverage. For example, Bräuninger, Müller, and Stecker (2016) use all bills about finances. Our method:

- 1 Use AI to extract entities from the bills;
 - AI has been shown to perform better than the classical methods for entity extraction (Zhang et al. 2023);
- 2 Remove one-word entities;
- 3 Connect the entities in the bills to news articles:
 - We set a minimum threshold (using arctan);
- 4 Construct a media index that weights for:
 - Timing: We estimate the density of news articles to count more an article of the 2000's than in the 2020's.
 - Salience of the Salience: Entities in the title count more;
 - Quantity: how many times are the entities mentioned in an article.

- 1 The confidence intervals are not symmetric;
- 2 The averages in the proximity matrices are highly dependent;
- 3 A problem of multiple comparison?

Solution to 1 and 2: **Bootstrapping**

1: With Bootstrapping Monte Carlo Approximation

There is never a sample that overshoots 100% (Chernick 2011).

Furthermore, we use bias-corrected and accelerated bootstrap intervals because of possible skewness of the data.

2: Bootstrap with an appropriate design (Hall and Wilson 1991)

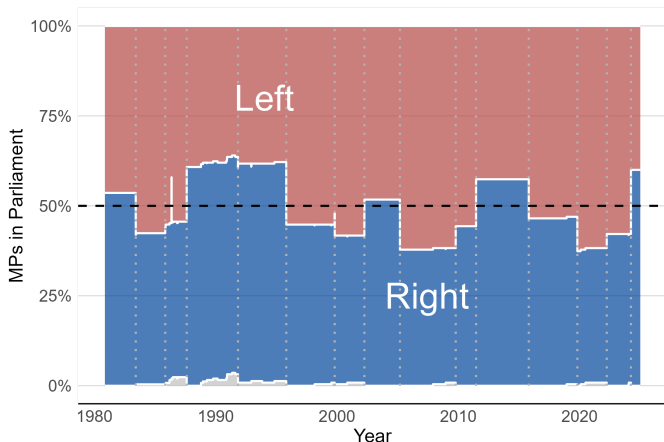
We use entire proposed bills as our sampling unit, instead of randomly sampling observations with replacement. In every sample all parties vote on the same bills.

Number 3 is not an issue

Section 2

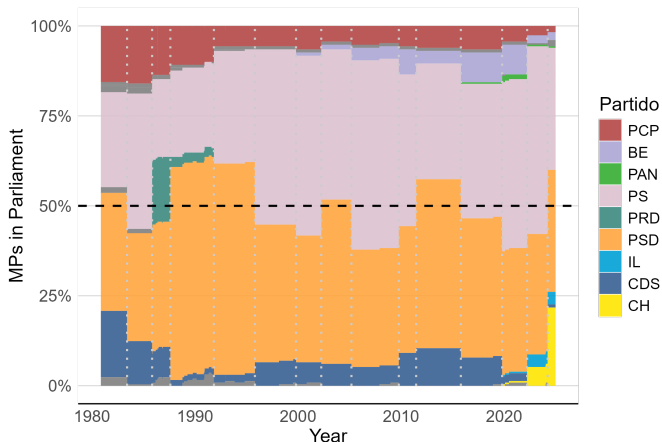
Portuguese Political History

Left vs. Right in Parliament



Notes: This figure shows the composition of the Portuguese parliament by the MPs' political party orientation. PSD, CDS, IL, CH, and PPM are the right-wing parties, shown in blue. PS, PCP, BE, ASDI, UEDS, MDP/CDE, UDP, PEV, PAN, PRD, PSN, ID, and Livre are the left-wing parties, shown in red. In gray are the independent MPs.

Parliamentary Representation by Party



Notes: This figure shows the composition of the Portuguese parliament by the MPs' political parties. PPM, ASDI, UEDS, MDP/CDE, UDP, PAN, PSN, Livre and independents are shown in gray.

Section 3

What Determines a Vote?

There are three factors that determine a vote (Bräuninger, Müller, and Stecker 2016):

- 1 Political positions;
- 2 Strategy/tactical vote;
- 3 Salience.

Furthermore, strategy is *mainly* driven by two factors:

- Government vs. Opposition effect;
- Anti-establishment parties.

Figure 1: XII Legislature (Troika)

PCP	100%	99%	98%	65%	21%	20%
PEV	99%	100%	98%	66%	21%	20%
BE	98%	98%	100%	66%	20%	19%
PS	65%	66%	66%	100%	52%	53%
PSD	21%	21%	20%	52%	100%	100%
CDS	20%	20%	19%	53%	100%	100%
	PCP	PEV	BE	PS	PSD	CDS

Figure 2: XIII Legislature (Geringonça): Foreign Affairs

PCP	100%	100%	95%	89%	72%	67%	69%
PEV	100%	100%	95%	92%	74%	69%	71%
BE	95%	95%	100%	85%	64%	56%	57%
PAN	89%	92%	85%	100%	75%	77%	76%
PS	72%	74%	64%	75%	100%	88%	88%
PSD	67%	69%	56%	77%	88%	100%	100%
CDS	69%	71%	57%	76%	88%	100%	100%
	PCP	PEV	BE	PAN	PS	PSD	CDS

Figure 3: XII Legislature (Troika): Labour and Social Security

PCP	100%	100%	100%	38%	2%	3%
PEV	100%	100%	100%	40%	2%	2%
BE	100%	100%	100%	40%	3%	3%
PS	38%	40%	40%	100%	66%	66%
PSD	2%	2%	3%	66%	100%	100%
CDS	3%	2%	3%	66%	100%	100%
	PCP	PEV	BE	PS	PSD	CDS

Figure 4: XV Legislature (Last)

PCP	100%	91%	88%	76%	35%	52%	45%	54%
BE	91%	100%	97%	91%	27%	53%	55%	63%
L	88%	97%	100%	96%	29%	55%	56%	62%
PAN	76%	91%	96%	100%	21%	60%	65%	74%
PS	35%	27%	29%	21%	100%	53%	45%	22%
PSD	52%	53%	55%	60%	53%	100%	83%	76%
IL	45%	55%	56%	65%	45%	83%	100%	79%
CH	54%	63%	62%	74%	22%	76%	79%	100%
	PCP	BE	L	PAN	PS	PSD	IL	CH

My Bill is Better than Yours

Legislature	Party in		Proximity (%) by proponent			Gap (p.p)
	Gov.	Opo.	All	Gov.	Opo.	
2	PSD	PS	47.33	58.39	38.35	20.04
4	PSD	PS	9.31	32.04	-0.04	32.08
5	PSD	PS	67.39	77.63	63.63	14.00
6	PSD	PS	56.24	74.52	48.48	26.04
7	PS	PSD	55.82	63.56	36.96	26.60
8	PS	PSD	56.75	65.62	38.52	27.10
9	PSD	PS	41.39	59.41	27.06	32.35
10	PS	PSD	54.77	63.22	21.05	42.17
11	PS	PSD	55.69	62.90	31.37	31.53
12	PSD	PS	44.32	64.69	17.06	47.63
13	PS	PSD	55.26	67.18	33.12	34.06
14	PS	PSD	63.09	71.87	40.91	30.96
15	PS	PSD	53.37	72.62	16.21	56.41

Notes: This figure shows the proximity of PS and PSD by the proponent of the bill. Absolute majorities are in bold. The proponent "Gov." includes bills proposed both by the government and by the party in power. The third legislature cannot be shown because PS and PSD were in government together.

Figure 5: Bills by Chega in the XV Legislature (Last) with Abstentions

PCP	100%	74%	90%	59%	72%	64%	57%	28%
BE	74%	100%	77%	73%	50%	66%	61%	50%
L	90%	77%	100%	67%	65%	67%	63%	35%
PAN	59%	73%	67%	100%	35%	64%	65%	65%
PS	72%	50%	65%	35%	100%	46%	38%	0%
PSD	64%	66%	67%	64%	46%	100%	70%	54%
IL	57%	61%	63%	65%	38%	70%	100%	62%
CH	28%	50%	35%	65%	0%	54%	62%	100%
	PCP	BE	L	PAN	PS	PSD	IL	CH

Figure 6: Bills by PCP in the XII Legislature (Troika): Finances

(a) Without Saliency

PCP	100%	100%	100%	52%	0%	0%
PEV	100%	100%	100%	52%	0%	0%
BE	100%	100%	100%	52%	0%	0%
PS	52%	52%	52%	100%	49%	49%
PSD	0%	0%	0%	49%	100%	100%
CDS	0%	0%	0%	49%	100%	100%
	PCP	PEV	BE	PS	PSD	CDS

(b) With Saliency

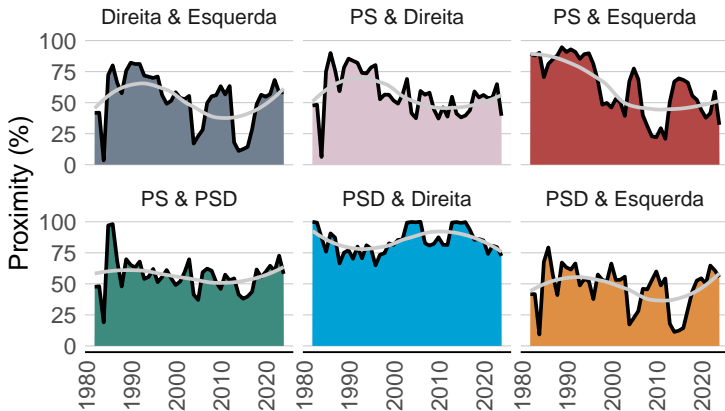
PCP	100%	100%	100%	43%	0%	0%
PEV	100%	100%	100%	43%	0%	0%
BE	100%	100%	100%	43%	0%	0%
PS	43%	43%	43%	100%	59%	59%
PSD	0%	0%	0%	59%	100%	100%
CDS	0%	0%	0%	59%	100%	100%
	PCP	PEV	BE	PS	PSD	CDS

Section 4

Long-Run Trends of Portuguese Parties

The “Isolation” of the Socialist Party

Figure 7: Proximity of Portuguese Parties



Notes: This figure shows the proximity of Portuguese political parties by orientation. CDS, IL, CH, and PPM are the right-wing parties. PCP, BE, ASDI, UEDS, MDP/CDE, UDP, PEV, PAN, PRD, PSN, ID, and Livre are the left-wing parties. Independent

Section 5

Testing Hypothesis in Political Science

■ Open the second article

educação, saúde ou defesa. O cálculo da proximidade entre partidos tem uma ponderação quanto à importância, recorrendo ao mediatismo de cada iniciativa.



Feb 15, 2024
Miguel Salema, Sebastião Fonte

O Bloco de Esquerda e a Iniciativa Liberal são Parecidos em Liberdades Cívicas?

Proximidade Política Usando Dados do Parlamento

PORTUGAL | POLITICS | PROJETO DADOSAR

O Bloco de Esquerda (BE) e a Iniciativa Liberal (IL) são tidos como partidos próximos na agenda social e liberdades cívicas. Todos pensamos na liberalização das drogas leves, do aborto e da eutanásia como pontos em comum. Usando dados do parlamento nós testamos esta hipótese. Descobrimos que existem outros temas, como equidade de género, liberdade de expressão online e direitos políticos, que tornam os dois partidos mais distantes do que todos julgamos.



Dec 6, 2023
Miguel Salema, Mafalda Goncalves

A Descida dos Salários dos Professores

A Situação Crítica da Atratividade da Carreira Docente em Portugal

PORTUGAL | POLITICS | TEACHERS



The link: <https://www.data-gambit.com/posts/AR-IL-BE/prox-be-il.html>

- 1 Are Chega and PCP close in proposals that are popular in rural Portugal?
 - Check the proximity in the commission of agriculture.
- 2 Silva, Costa, and Moniz (2021) argues that “lower levels of political polarization and a climate of cross-party collaboration” were key to the positive *covid-19* result in Portugal.
 - Test if PS and the opposition were closer than usual in the temporary *covid-19* commission.
- 3 Lisi (2019) argues that “party strategic goals have led to a depoliticization of European integration” and “some left-wing parties have strategically adapted their stances [on Europe].”
 - Test if BE and PCP have become closer to the mainstream parties regarding the EU.

Section 6

Thank you!

Section 7

Annex

The values in the proximity matrix are calculated by assigning a value of 1 to an MP that votes in favor, 0 to an abstention and -1 to a vote against. Then, we connect the party to MP. Lastly, we aggregate the votes as proximities using a simple Euclidean distance between parties using the MP votes. This framing allows for the voting liberty of MPs granted by the Portuguese system. Thus, the formula, for a given time frame and commission, is:

$$\text{proximity}_{pj} = \frac{1 - \sum_{b \in \mathbb{B}_{i,j}} \left| \frac{\sum_{i \in \mathbb{P}} \nu_{ib}}{2N_p} - \frac{\sum_{i \in \mathbb{J}} \nu_{ib}}{2N_j} \right|}{M_{pj}},$$

where \mathbb{P} is the set containing all MPs i of party p (which has N_p MPs); \mathbb{J} is the set containing all MPs i of party j (which has N_j MPs); ν_{ib} is the voting direction of MP i for the proposed bill b , and $\mathbb{B}_{i,j}$ is the set of M_{pj} bills in which both party p and party j voted for.

Bootstrapping by itself does not solve the problem of multiple inference. Yet, the problem of adjusting for multiple inference actually does not apply to the case of proximity matrices. Like Viviano, Wuthrich, and Niehaus (2021) describe, when we are dealing with multiple “treatments”, what is relevant is if the research cost function exhibits returns to scale. However, in our case, the “cost” is relative to the proposed initiative, not a party vote. (Hence the bootstrapping design I mentioned in the previous section.)

Notwithstanding, when computing several matrices, we do have a multiple inference issue. For that, we use the Holm correction (Holm 1979) to decrease our confidence level. We don't use Bonferroni because of the dependence assumption and because it is known to be overly conservative.

There is a big body of literature using parliamentary votes (Bräuninger, Müller, and Stecker 2016; Poole and Rosenthal 1985; Clinton, Jackman, and Rivers 2004).

Much of the literature focuses on trying to infer the real position of parties based on their roll-call votes.

There is a smaller literature that uses PCA and cosines (Tangian 2019).

This can be seen as the first layer of the framework in Bräuning, Müller, and Stecker (2016). The vote of a party will depend on its utility u .

$$u(\mathbf{X}) = -d(\mathbf{X} - \mathbf{Z}_i)^2 + \varepsilon_i$$

Where \mathbf{X} is a vector with the positions of a party, but also its strategic plays, etc. Everything that might influence a vote. The same information is in \mathbf{Z}_i , but relative to a given bill. What kind of content, who proposed it, etc. $d()$ is a distance function. We'll use euclidean distance. Here, we can see that we already consider that there is an idiosyncratic part, ε_i , that needs inference.

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